

Summary

This report describes the sexually transmitted disease burden in Pierce County. Primary emphasis is placed on chlamydia and gonorrhea since they are the most frequently reported STDs in Washington State. The 2002 incidence rates by age and sex for gonorrhea and chlamydia are presented.

The report concludes with a presentation of which providers in your county reported STDs.

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Pierce County STD Disease Trends

Table 1: Washington State Reportable Sexually Transmitted Diseases, Pierce County, 2002

Disease	2001 Pierce County Cases	2002 Pierce County Cases	2002 Pierce County Rate ^λ (per 100,000)	2002 Washington State Rate ^λ (per 100,000)
Chlamydia	2,336	2,733	377	247
Gonorrhea	660	636	88	48
Early Syphilis	5	11	1.5	1.5
Congenital Syphilis	0	0	-	2.5 (live births)
Late/Late Latent Syphilis	9	8	1.1	1.0
Herpes (initial infection)	186	221	30	32
GI/LGV/Chancroid**	0	1	*	0.0
HIV cases**	70	47		
AIDS cases**	65	29		
TOTAL (excluding HIV/AIDS cases)	3,196	3,610	498	330

^λ Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003.

* Rates cannot be calculated for years with fewer than five cases.

** See Appendix A for explanation of disease acronyms.

In 2002, Pierce County experienced an increase from 2001 in its combined STD morbidity rate. With 3,610 new cases of STDs (excluding HIV/AIDS cases¹) in 2002, the incidence rate for all STDs was 498 per 100,000 persons. This is 51% greater than the 330 per 100,000 combined STD rate for Washington State. Pierce County reported no cases of congenital syphilis, 1 case of Chancroid and no cases of GI or LGV in 2002.

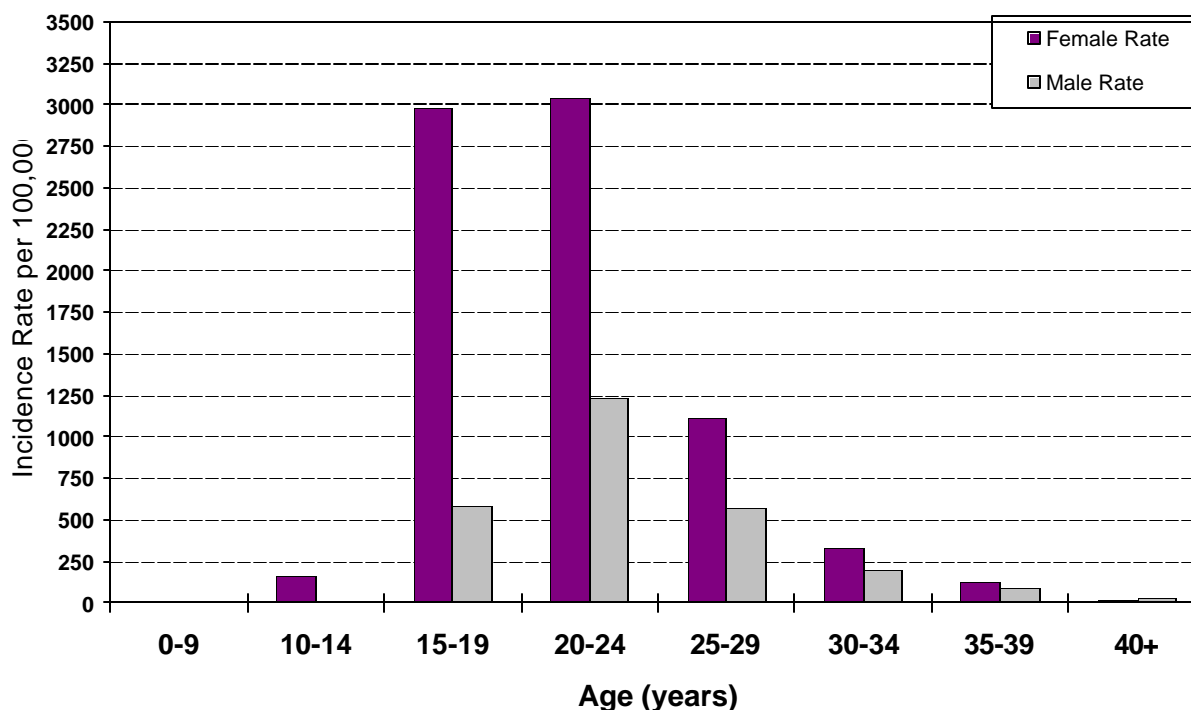
2002 compared to 2001:

- Chlamydia had a 17% increase in reported cases (2,733 vs. 2,336).
- Gonorrhea had a 4% decrease in reported cases (636 vs. 660).
- Early syphilis had a 120% increase in reported cases (11 vs. 5).
- Late/late latent syphilis had a 11% decrease in reported cases (8 vs. 9).
- Initial infection herpes had a 19% increase in reported cases (221 vs. 186).
- Chancroid had a 100% increase in reported cases (1 vs. 0).

¹ Complete information on the HIV/AIDS epidemic in Washington can be found in Washington State HIV/AIDS Surveillance Report, Washington State Department of Health, IDRH, Assessment Unit.

Chlamydia

FIGURE 1: Chlamydia Incidence Rates by Age and Gender, Pierce County, 2002^λ



Female Rate	0	159	2,985	3,039	1,111	324	127	10
Male Rate	*	*	584	1,227	569	195	89	23
Female Cases	0	44	795	751	255	88	36	15
Male Cases	1	2	163	328	137	54	26	33

^λ Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003.

Incidence rates rounded to the nearest whole number.

* Rates cannot be calculated for ages with fewer than five cases.

In 2002, the female chlamydia incidence rate peaked among the 20-24 year old age group, at 3,039 cases per 100,000. After this peak, chlamydia incidence among females progressively declined with increasing age. Among men, the 2002 chlamydia incidence rate peaked among 20-24 year olds at 1,227 cases per 100,000, then declined with increasing age.

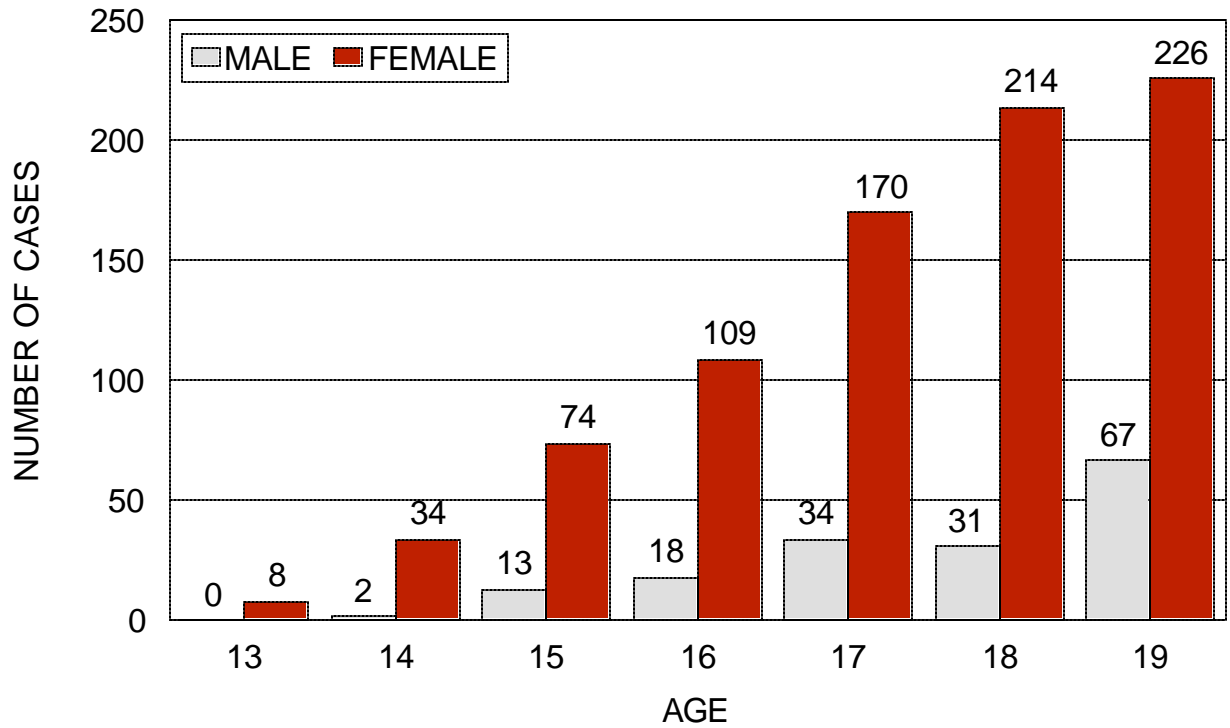
Only women are routinely screened for chlamydia. Because active case-finding is preferentially limited to women, the incidence of chlamydia in men may be under-reported by comparison.

Caution should be used in interpreting comparisons of chlamydia rates between genders.

The 2002 STD Treatment Guidelines from CDC recommends that all women diagnosed with chlamydia be re-screened three to four months after treatment. This was suggested because of the high prevalence of chlamydia found in women diagnosed with the disease in the preceding months, presumably as a result of re-infection.

PIERCE COUNTY

TEEN (13-19) CHLAMYDIA CASES - 2002



Repeater Infection (Person having more than one infection in a 12-month period prior to being treated.)

Recurrent infection is common and associated with increased risk of PID and other serious outcomes. Data suggest that young age and incomplete therapy increases the risk for a persistent/recurrent infection. Studies also suggest that women's current male sex partners are not receiving treatment for chlamydia and that women are being re-infected by resuming sex with preexisting (and infected) sex partners. Careful interviewing and prompt, concurrent treatment of all partners is important. People should be coached to ask health care providers for re-screening if risk behavior occurs.

Table 2: **Chlamydia** Repeater Infections, Pierce County, 2002.

	MALE	FEMALE	TOTAL
Reported Cases	745	1,988	2,733
Repeaters Identified	68	231	299
% Repeaters	9%	12%	11%
Age			
0-9			
10-14		5	5
15-19	9	113	122
20-24	36	93	129
25-29	11	16	27
30-34	6	4	10
35-39	4		4
40+	2		2
Unknown			

Asymptomatic Infection

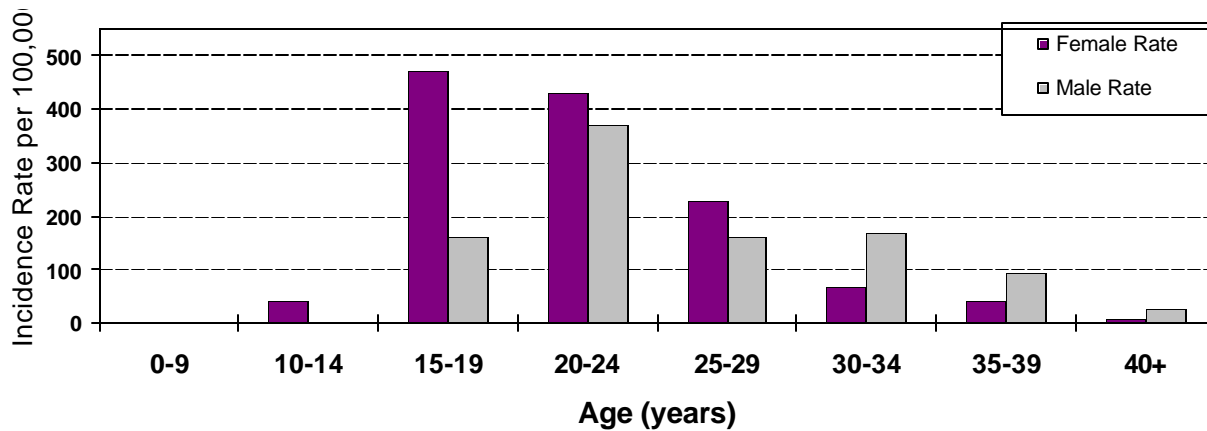
STD infections often lack signs and symptoms. Additionally, signs of severe complications may not appear until long after infection, reducing the likelihood that the patient will associate complications with the initial time of infection. Screening sexually active adolescents (19 years and younger) for chlamydia should be routine during annual examinations even if symptoms are not present. Screening women and men aged 20-24 is also suggested, particularly those who have new or multiple sex partners and who do not consistently use barrier contraceptives. Careful interviewing and treatment of all partners is important.

Table 3: Reported Cases of **Chlamydia** by Diagnostic Category, Pierce County, 2002.

	Private		Public		Total		Total
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	151	906	147	306	298	1,212	1,510
Symptomatic-Uncomplicated	236	520	194	120	430	640	1,070
Pelvic Inflammatory Disease		54		5		59	59
Other	1	2		1	1	3	4
Unknown	2	8	14	66	16	74	90
TOTAL	390	1,490	355	498	745	1,988	2,733

Gonorrhea

FIGURE 3: Gonorrhea Incidence Rates by Age and Sex, Pierce County, 2002^λ



Female Rate	0	40	473	429	227	67	42	8
Male Rate	0	0	161	371	162	170	96	28
Female Cases	0	11	126	106	52	18	12	13
Male Cases	0	0	45	99	91	47	28	40

^λ Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003.

Incidence rates rounded to the nearest whole number.

* Rates cannot be calculated for years with fewer than five cases.

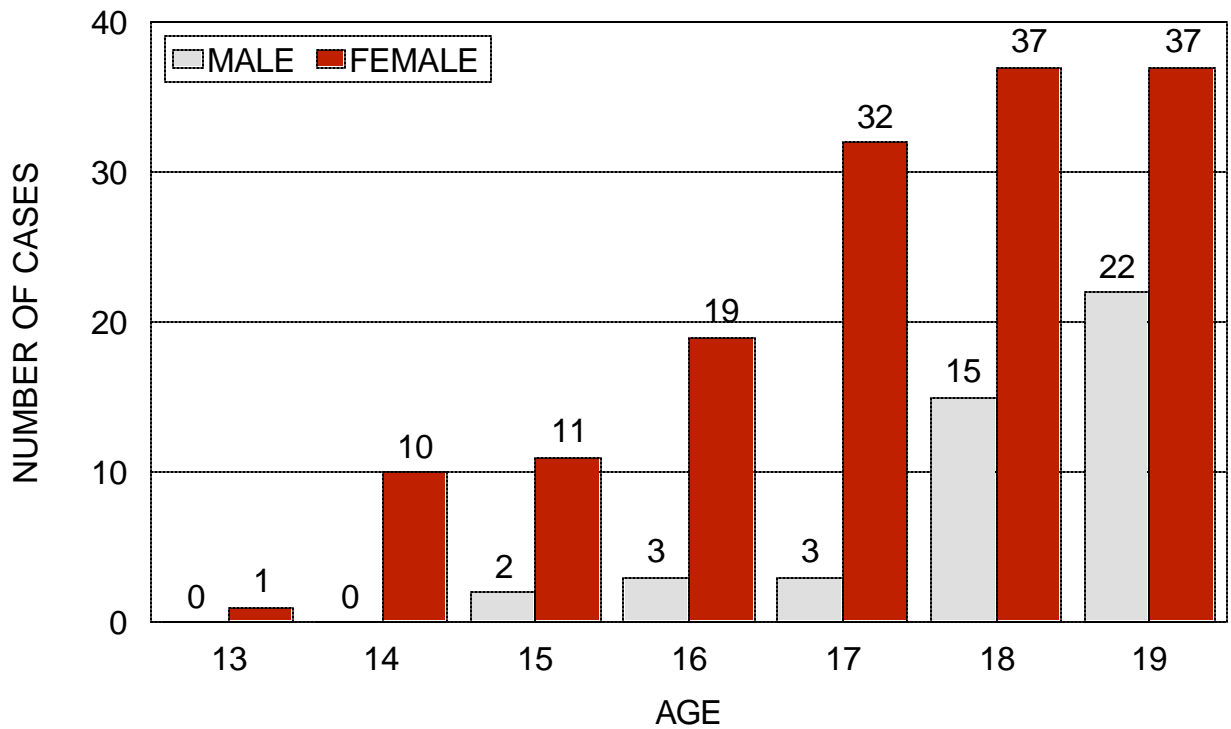
In 2002, the female gonorrhea incidence rate peaked among the 15-19 year old age group at 478 cases per 100,000. After this peak, gonorrhea incidence among females progressively declined with increasing age. Among men, the 2002 gonorrhea incidence rate peaked among 20-24 year olds at 371 cases per 100,000, and declined with increasing age.

The age distribution of gonorrhea differs between genders and age groups. For Washington State, the peak incidence rate for both males and females is in the 20-24 year old age group. The greatest incidence of disease among females, 66% of total morbidity, is among 15-24 year olds, while for males the burden of disease is distributed more evenly among those 25 and older. In 2002, males had a higher gonorrhea incidence rate (57.1/100,000) than females (39.3/100,000). Factors contributing to the distribution of gonorrhea incidence in different age groups among men and women are the presumed age gap between men and women in sexual relationships as well as an outbreak among men-who-have-sex-with-men (MSM) in Western Washington whose median reported age was 30.

Because most gonorrhea cases are symptomatic and seek medical care, reported cases are considered to be an accurate reflection of true disease incidence in the overall population. Providers in Washington State who reported gonorrhea cases in 2002 indicated that 82% of the men were symptomatic for gonorrhea; 51% of the women were symptomatic. Unlike chlamydia, there is no widespread screening program for gonorrhea, however, most clinics provide gonorrhea screening at some level and 99% will perform gonorrhea testing if the client is symptomatic.

PIERCE COUNTY

TEEN (13-19) GONORRHEA CASES - 2002



National gonorrhea incidence rates declined from 1975 through 1997, in 1998 the gonorrhea rate increased 7.8% and has remained essentially unchanged from 1998 to the present. In Washington State, gonorrhea incidence declined through 1998, increased from 1999 through 2001, and decreased 2% in 2002. Gonorrhea numbers are still influenced by the previously noted increases in gonorrhea infections among MSM.

Table 4: **Gonorrhea** Repeater Infections, Pierce County, 2002.

	MALE	FEMALE	TOTAL
Reported Cases	298	338	636
Repeaters Identified	30	32	62
% Repeaters	10%	9%	10%
Age			
0-9			
10-14			
15-19	2	15	17
20-24	10	10	20
25-29	6	4	10
30-34	6	1	7
35-39	2	1	3
40+	4	1	5
Unknown			

Table 5: Reported Cases of **Gonorrhea** by Diagnostic Category, Pierce County, 2002.

	Private		Public		Total		Total
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	16	113	13	22	29	135	164
Symptomatic-Uncomplicated	178	149	84	24	262	173	435
Pelvic Inflammatory Disease		23		1		24	24
Other							
Unknown	1	3	6	3	7	6	13
TOTAL	195	288	103	50	298	338	636

Conclusion

Table 6: Reported Cases of Chlamydia and Gonorrhea by Provider Type, Pierce County, 2002

Provider Type	Chlamydia			Gonorrhea		
	No. of Providers	No. of Cases	Percent of Total Cases	No. of Providers	No. of Cases	Percent of Total Cases
Alcohol/Substance Abuse						
Blood Bank/Plasma Center						
Community Health Center	12	193	7%	9	75	12%
Emergency Care (excl. hosp.)	17	136	5%	12	66	10%
Family Planning	14	290	11%	7	37	6%
Health Plan/HMOs	13	156	6%	5	37	6%
HIV/AIDS						
Hospitals	21	272	10%	17	118	19%
Indian Health	1	57	2%	1	7	1%
Jail/Correction/Detention	7	155	6%	4	36	6%
Job Corps	1	1	0%			
Migrant Health	2	68	2%	2	11	2%
Military	2	567	21%	2	83	13%
Neighborhood Health	4	7	0%	1	2	0%
OB/GYN	17	74	3%	7	15	2%
Other	99	516	19%	42	101	16%
Private Physicians	45	141	5%	15	21	3%
Reproductive Health	6	42	2%	3	5	1%
STD Clinics	5	20	1%	3	20	3%
Student Health	6	38	1%	2	2	0%
TOTAL	272	2,733	100%	132	636	100%

In Pierce County, the Military providers reported the highest number of chlamydia cases. These providers reported 21% of the total. Other providers reported the second highest number of chlamydia cases (19%). Gonorrhea cases (19% of the total) were most frequently reported by Hospitals.

The Healthy People 2010 national objectives for chlamydia incidence are:

Females aged 15-24 attending family planning clinics: 3%. There are 2 Region X Chlamydia Project* Family Planning clinics in Pierce County. The 2002 positivity rate for females was:

Site	<u>Male</u>			<u>Female</u>		
	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
PP of Western WA- Lakewood	0	0	0.0	491	32	6.5
PP of Western WA – Tacoma	4	2	50.0	1,279	127	9.9

Females aged 15-24 attending STD clinics: 3%.

Males aged 15-24 attending STD clinics: 3%.

There are 0 Region X Chlamydia Project* STD/Reproductive Health clinics in Pierce County.

Other Region X Chlamydia Project Sites in Pierce County include:

Site	<u>Male</u>			<u>Female</u>		
	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Pacific Lutheran University.	0	0	0.0	93	5	5.4
University of Puget Sound	2	0	0.0	159	5	3.1
Pierce County Jail	0	0	0.0	21	3	14.3
Remann Hall Juvenile	482	38	7.9	236	36	15.3
WA Corrections Center for Women (Purdy)	0	0	0.0	1,184	37	3.1
PLU Wellness	75	26	34.7	43	7	16.3
Sea Mar-Tacoma	74	22	29.7	303	22	7.3
Tacoma-Pierce Co Outreach	3	1	33.3	6	0	0.0

The year 2010 Healthy People 2010 national objective for gonorrhea incidence is 19 cases per 100,000.

Pierce County is working toward this goal with the 2002 rate of 88 cases per 100,000.

*For Region X Chlamydia Project Screening Criteria see page 12.

Appendix A: Data Sources, Analyses and Limitations

Cases: The number of cases identified and submitted by providers to local health jurisdictions and forwarded to the Washington State Department of Health, Office of Infectious Disease and Reproductive Health, STD/TB Services.

Population: Denominator population estimates for incidence rates are from Washington State Adjusted Population Estimates, Office of Financial Management (OFM), February 2003.

Incidence Rates: Incidence rates are calculated as the number of new episodes of a disease (not persons) in a given year divided by the total population (age and sex appropriate) for that year, expressed as a rate per 100,000. Incidence rates allow comparisons between two or more populations by standardizing the denominator and are the most appropriate statistic to use when investigating differences between groups. Rates should not be calculated for incident case totals fewer than five because the rates are unstable.

Data Reporting: Gonorrhea, chlamydia, syphilis, and herpes (initial infection) are reportable diseases to the local health jurisdictions and forwarded to the Department of Health. To be reported and included in surveillance data, disease definition must be met.

Disease Definitions:

- Gonorrhea - isolation of *Neisseria gonorrhea* from a clinical specimen or observation of gram-negative intracellular diplococci in urethral smears or endocervical smears.
- Chlamydia- isolation of *Chlamydia trachomatis* from a clinical specimen by culture or non-culture methods that detect chlamydia antigen or genetic material.
- Syphilis - a complex sexual transmitted disease with a highly variable clinical course. See CDC guidelines for surveillance definition.
- Herpes Simplex (initial infection only) - diagnostic criteria for reporting can be made through clinical observation of typical lesions and/or laboratory confirmation.
- Chancroid - an STD characterized by painful genital ulceration and inflammatory inguinal adenopathy.
- Granuloma Inguinale (GI) - a slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area.
- Lymphogranuloma Venereum (LGV) - characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis.
- HIV – Human Immunodeficiency Virus is a retrovirus causing HIV disease and AIDS (Acquired Immunodeficiency Syndrome) in humans. This pathogen is transmitted from person to person through unprotected sexual contact, sharing of injection equipment and transfusion/transplantation with infected blood or tissue
- AIDS – Acquired Immunodeficiency Syndrome is the advanced stage of HIV-disease in humans and is characterized by severe suppression of immune response. Persons with

AIDS are at risk for increased susceptibility to opportunistic infections, degradation of major organ systems and eventual death.

The diagnosing practitioner is responsible for providing the case information which includes patient demographics, source of diagnosis, limited clinical information including site of infection and treatment, and date of diagnosis.

Data Strengths: Sexually transmitted disease data may provide more timely information on behavioral trends in the community than diseases with similar modes of transmission particularly HIV/AIDS. There is a high level of participation in the STD surveillance system by private providers of STD services.

Data Limitations: Clinically diagnosed cases of STDs (without laboratory confirmation) may be missed through this surveillance system. Depending upon diagnosing practices, completeness of reporting may vary by source of health care.

Data Biases: Biases could exist in the data due to under-reporting, inability of certain populations to access medical services, error in laboratory reporting, or differential reporting or screening by disease and source of care. However, it is assumed that the number of cases that would fall into these categories is small and normally distributed, thus not significantly impacting the calculated STD rates.

Assumptions: It is assumed that the cases reported from year to year are independent of each other. One violation of this assumption could be if a person who has an STD one year is more likely to have an STD the following year. Also, repeat episodes of the same STD by the same person are not excluded from the numerator count; it is felt that these numbers are not large enough to significantly impact the calculated incidence rates. Finally, we have assumed that all rates follow a chi-square distribution.

Female Selective Screening Criteria in Family Planning and Expansion Sites:

1. Women 24 and under should be tested at least annually when undergoing a pelvic exam.
2. All women 25 and older who meet one of the following criteria should be screened:
 - a. Cervical findings of mucopurulent cervicitis, friable cervix, ectopy with inflammation or edema,
 - b. PID (Pelvic Inflammatory Disease),
 - c. Exposed to CT in past 60 days,
 - d. Symptomatic sex partner during past 60 days,
 - e. Pregnant,
 - f. Seeking an IUD insertion,
 - g. Prior chlamydial infection within the past 12 months.